



OTHER CITED (Including Author, Title, Date, Pertinent Pages, Etc.)

✓	A257	Comparison of Methods for Measuring Kerogen Pyrolysis Rates and Fitting Kinetic Parameters, Burnham et al., March 23, 1987, (29 pages).
✓	A258	Further Comparison of Methods for Measuring Kerogen Pyrolysis Rates and Fitting Kinetic Parameters, Burnham et al., September 1987, (16 pages).
✓	A259	Tests of a Mechanism for H ₂ S Release During Coal Pyrolysis, Coburn et al., May 31, 1991, (6 pages).
✓	A260	Kinetic Studies of Gas Evolution During Pyrolysis of Subbituminous Coal, J. H. Campbell et al., May 11, 1976, (14 pages).
✓	A261	Excavation of the Partial Seam Crip Underground Coal Gasification Test Site, Robert J. Cena, August 14, 1987, (11 pages).
✓	A262	Evolution of Sulfur Gases During Coal Pyrolysis, Oh et al., February 3, 1988, (11 pages).
✓	A263	Coal Pyrolysis and Methane Decomposition In the Presence of a Hot Char Bed, Peters et al., August 1983, (21 pages).
✓	A264	Pyrolysis Kinetics and Maturation of Coals from the San Juan Basin, John G. Reynolds & Alan K. Burnham, December 1992, (30 pages).
✓	A265	Numerical Model of Coal Gasification in a Packed Bed, A.M. Winslow, April 1976 (27 pages).
✓	A266	LLL In-Situ Coal Gasification Program, Stephens et al., June, 14, 1976 (12 pages)
✓	A267	Pyrolysis of Subbituminous Coal as it Relates to In-Situ Coal Gasification, J.H. Campbell, January 17, 1977 (20 pages).
✓	A268	The Historical Development of Underground Coal Gasification, D. Olness & D.W. Gregg, June 30, 1977 (60 pages).
✓	A269	Laboratory Measurements of Groundwater Leaching and Transport of Pollutants Produced During Underground Coal Gasification, V.A. Dalton & J.H. Campbell, March 1, 1978 (21 pages).
✓	A270	The Hoe Creek II Field Experiment of Underground Coal Gasification, Preliminary Results, Aiman et al., February 27, 1978 (26 pages).
✓	A271	Ground-Water and Subsidence Investigations of the LLL In Situ Coal Gasification Experiments, Mead et al, July 17-20, 1978 (31 pages).
✓	A272	Geotechnical Instrumentation Applied to In Situ Coal Gasification Induced Subsidence, Ganow et al. June 21, 1978 (16 pages).
✓	A273	The Use of Tracers in Laboratory and Field Tests of Underground Coal Gasification and Oil Shale Retorting, Lyczkowski et al., June 16, 1978 (19 pages).
✓	A274	Underground Gasification of Rocky Mountain Coal, D.R. Stephens and R.W. Hill, July 18, 1978 (19 pages).
✓	A275	High-BTU Gas Via In Situ Coal Gasification, Stephens et al., October, 1978 (41 pages).
✓	A276	A One-Dimensional Model for In Situ Coal Gasification, Thorsness et al., August 25, 1978 (76 pages).
✓	A277	Control Aspects of Underground Coal Gasification: LLL Investigations of Ground-Water and Subsidence Effects, Mead et al., November 10, 1978 (21 pages).
✓	A278	Environmental Controls for Underground Coal Gasification: Ground-Water Effects and Control Technologies, Warren Mead & Ellen Raber, March 14, 1980 (19 pages).
✓	A279	Results from the Third LLL Underground Coal Gasification Experiment at Hoe Creek, Hill et al., May 20, 1980 (12 pages).
✓	A280	Results From the Hoe Creek No. 3 Underground Coal Gasification Experiment, Thorsness et al., May 1980, (11 pages).
✓	A281	Steam Tracer Experiment at the Hoe Creek No. 3 Underground Coal Gasification Field Test, C.B. Thorsness, November 26, 1980 (51 pages).
✓	A282	Computer Models to Support Investigations of Surface Subsidence and Associated Ground Motion Induced by Underground Coal Gasification, R.T. Langland & B.C. Trent, July 1981 (16 pages).

EXAMINER:

DATE CONSIDERED: 11/22/02

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the patent owner.

11. (Canceled)

12. (Previously Amended) The transistor of claim 8, wherein the first gate dielectric material is selected from one of HfO_2 and ZrO_2 .

13. (Original) The gate dielectric of claim 8, wherein the second dielectric material is selected from one of BST and PZT.

14. (Original) The gate dielectric of claim 8, further comprising a third dielectric material having a third dielectric constant.

15. (Currently Amended) An apparatus comprising:
a semiconductor substrate having a transistor device formed thereon, the transistor device having a gate dielectric disposed directly between a surface of the substrate and a gate electrode comprising:

a first dielectric material having a first dielectric constant; and
a second dielectric material having a second dielectric constant different from the first dielectric constant,

the first and second dielectric materials being scalable for each of a plurality of feature size technologies, having a gate length in the range of 25-15070 nm, and

wherein the first material thickness and the second material thickness are determined by the relationship

$$t_1/k_1 + t_2/k_2 = t_{\text{ox}}/k_{\text{ox}}$$

wherein t_1 is the first material thickness,

t_2 is the second material thickness,

t_{ox} is the minimum thickness for a gate dielectric of silicon dioxide for a chosen gate length,

k_1 is the dielectric constant for the first dielectric material,

k_2 is the dielectric constant for the second dielectric material, and

k_{ox} is the dielectric constant of silicon dioxide.

16. (Previously Added) The apparatus of claim 15, wherein the second dielectric constant is greater than the first dielectric constant.

17. (Previously Added) The apparatus of claim 15, wherein the first material has a first thickness and the second material has a second thickness, the combination of the first thickness and the second thickness defining a total thickness less than one-third of the length of a transistor gate adapted to overly the gate dielectric.

18. (Canceled)

19. (Previously Amended) The apparatus of claim 15, wherein the first gate dielectric material is selected from one of HfO_2 , BaO , La_2O_3 , Y_2O_3 , and ZrO_2 .

20. (Previously Added) The apparatus of claim 15, wherein the second dielectric material is selected from one of BST and PZT.

21. (Previously Added) The apparatus of claim 15, further comprising a third dielectric material having a third dielectric constant.